

# Human TNF alpha Protein; hFc Tag

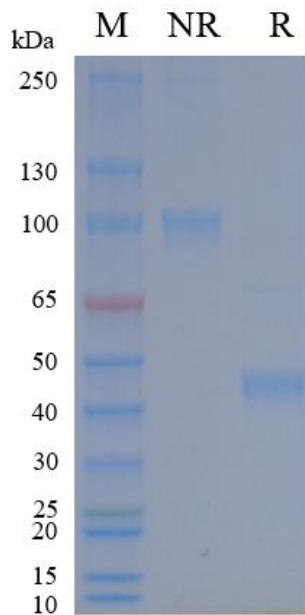
## Product Information

Product Name	Human TNF alpha Protein; hFc Tag
Storage temp	Store at $\leq -70^{\circ}\text{C}$ , stable for 6 months after receipt. Recommend to aliquot the protein into smaller quantities for optimal storage. Please minimize freeze-thaw cycles.
Catalog# / Size	GM-88210RP-100 / 100 $\mu\text{g}$ GM-88210RP-1000 / 1 mg

## Protein Information

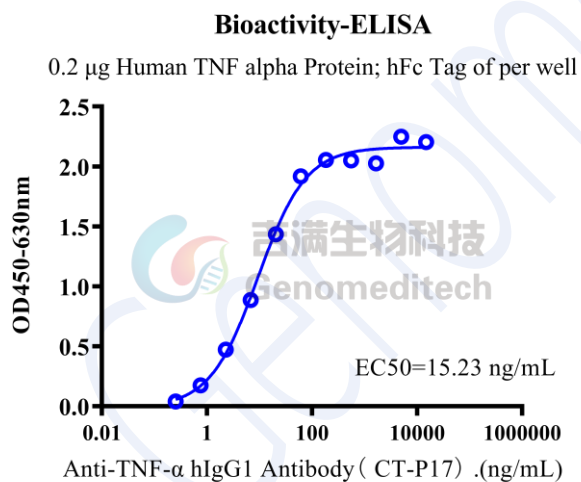
Alternative Names	DIF, TNF-alpha, TNFA, TNFSF2, TNF $\alpha$
Source	Human TNF alpha Protein; hFc Tag (GM-88210RP) is expressed from human 293 cells (HEK-293). It contains AA Val 77 - Leu 233 (Accession # P01375). This protein carries a hFc tag at the C-terminus.
Purity	> 95% as determined by SDS-PAGE
Endotoxin	< 1 EU/ $\mu\text{g}$ , determined by LAL gel clotting assay
Predicted Mol Mass	43.3 KDa
Formulation	Supplied as a 0.2 $\mu\text{m}$ filtered solution of PBS, pH7.2-7.4.
Description	<p>TNF-<math>\alpha</math> is a key pro-inflammatory cytokine in the TNF superfamily, encoded by the TNFA (TNF) gene and commonly referred to as TNF-<math>\alpha</math> or TNFSF2. It is produced by a broad range of cells, including macrophages, T cells, and other immune and non-immune cells, and exists in membrane-bound and soluble forms. TNF-<math>\alpha</math> plays a central role in mediating inflammation, apoptosis, cell proliferation, and host defense, with dysregulation linked to inflammatory diseases, sepsis, and cancer.</p> <p>TNF-<math>\alpha</math> signals primarily through its receptors TNFR1 (p55) and TNFR2 (p75), triggering multiple pathways. TNFR1 activation commonly leads to NF-<math>\kappa\text{B}</math> and MAPK signaling, promoting transcription of inflammatory genes, survival factors, and sometimes apoptosis via caspase cascades. TNFR2 mainly modulates immune cell activation and can enhance TNF-<math>\alpha</math>-driven responses. Cross-talk with other cytokines shapes the intensity and duration of inflammation. Therapeutically, TNF-<math>\alpha</math> inhibitors are used to treat autoimmune diseases, but neutralization must balance infection risk and immune suppression.</p>

## SDS-PAGE

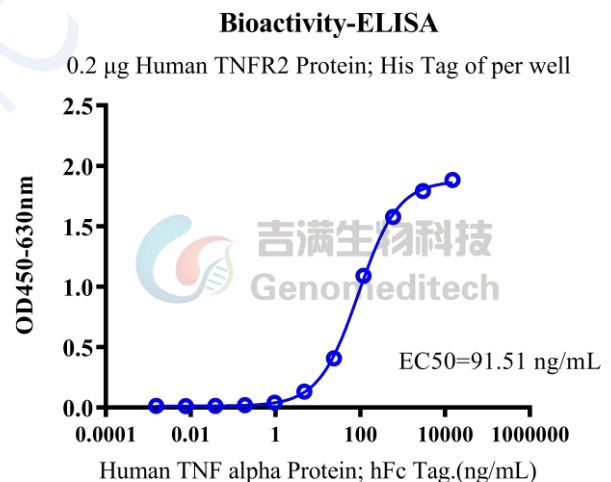


On SDS-PAGE under non-reducing (NR) condition and reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

## Bioactivity-ELISA



Human TNF alpha Protein; hFc Tag (Catalog # GM-88210RP) was immobilized at 2 µg/ml (100 µL/well). Increasing concentrations of Anti-TNF-α hIgG1 Antibody (CT-P17) (Catalog # GM-49267AB) were added.



Human TNFR2 Protein; His Tag (Catalog # GM-88213RP) was immobilized at 2 µg/ml (100 µL/well). Increasing concentrations of Human TNF alpha Protein; hFc Tag (Catalog # GM-88210RP) were added.